

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of

Applicant : Evan Y. W. Zhang  
Title : IMAGE INTENSIFIER AND LWIR FUSION/COMBINATION  
: SYSTEM

Docket No. : ZYB 0001 PA

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

PRELIMINARY AMENDMENT

This paper is being filed concurrently with the above-noted application.  
Consideration of the present application is respectfully requested in light of the  
amendments below.

IN THE CLAIMS

Please cancel claim 40.

Please add the following new claim:

35. An infrared imaging device comprising:

an aperture arranged to allow entry of radiation;

a near infrared sensor having a first electrical output and a first optical output, said  
first electrical and optical outputs each representing an image of said radiation passing  
through said aperture filtered into the visible and near infrared spectral range;

a long wave infrared sensor having a second electrical output and a second optical  
output, said second electrical and optical outputs each representing an image of said  
radiation passing through said aperture filtered into the long wave infrared spectral range;

a beam splitter arranged to receive said radiation passed through said aperture, said beam splitter having a first waveband filter arranged to pass visible and near infrared radiation to said near infrared sensor, and a second waveband filter arranged to pass long wave infrared radiation to said long wave infrared sensor;

a beam combiner arranged to optically combine said first and second optical outputs into an optically fused image;

an optical viewer arranged such that said first optical output, said second optical output, and said optically fused image may be viewed selectively, said optical viewer adjustable from a first position aligned with the eyes of an operator wearing said headgear, and a second position out of alignment with the eyes of said operator; and,

a display device aligned along a common optical axis with said aperture and arranged such that said first electrical output, said second electrical output, and a combination of both said first and second electrical outputs may be viewed selectively, said display device comprising a viewing device mountable to a headgear such that, when said headgear is worn by said operator, said viewing device is positioned just above the eyes of an operator, and said viewing device may be viewed by said operator by looking upwards towards said viewing device.

REMARKS

By amendment herein, claim 40 is canceled. Further, a new independent claim 35 is added.

CONCLUSION

Applicants respectfully submit that the above claims represent allowable subject matter. The Examiner is encouraged to contact the undersigned to resolve efficiently any formal matters or to discuss any aspects of the application or of this response. Otherwise, early notification of allowable subject matter is respectfully solicited.

Respectfully submitted,

KILLWORTH, GOTTMAN, HAGAN &  
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